

# Hydric Soils

Barnstable County, Massachusetts

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>11A:</b>					
Berryland mucky loamy coarse sand, 0 to 2 percent slopes	Berryland	70	Terraces	Yes	2, 3
	Freetown	10	Bogs	Yes	1
	Maybid	5	Depressions	Yes	2, 3
	Pipestone	5	Terraces	Yes	2
	Swansea	5	Bogs	Yes	1
	Walpole Variant, LOAMY SUBSTRATUM	5	Terraces	Yes	2
<b>12A:</b>					
Maybid silt loam, 0 to 3 percent slopes	Maybid	70	Depressions	Yes	2, 3
	Berryland	10	Terraces	Yes	2, 3
	Scitico	10	Depressions	Yes	2
	Swansea	5	Bogs	Yes	1
	Walpole Variant, LOAMY SUBSTRATUM	5	Terraces	Yes	2
<b>13A:</b>					
Maybid variant silty clay loam, 0 to 1 percent slopes	Maybid Variant	90	Depressions	Yes	2
	Berryland	5	Terraces	Yes	2, 3
	Swansea	5	Bogs	Yes	1
<b>14A:</b>					
Scitico silt loam, 0 to 3 percent slopes	Scitico	75	Depressions	Yes	2
	Maybid	10	Depressions	Yes	2, 3
	Walpole variant, LOAMY SUBSTRATUM	5	Terraces	Yes	2

# Hydric Soils

Barnstable County, Massachusetts

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>21A:</b>					
Walpole sandy loam, loamy substratum, 0 to 3 percent slopes	Walpole Variant, LOAMY SUBSTRATUM	70	Terraces	Yes	2
	Maybid	8	Depressions	Yes	2, 3
	Pipestone	8	Terraces	Yes	2
	Scitico	6	Depressions	Yes	2
<b>38A:</b>					
Pipestone loamy coarse sand, 0 to 3 percent slopes	Pipestone	70	Terraces	Yes	2
	Berryland	10	Terraces	Yes	2, 3
	Walpole Variant, LOAMY SUBSTRATUM	10	Terraces	Yes	2
<b>53A:</b>					
Freetown muck, ponded, 0 to 1 percent slopes, coastal lowland	Freetown, ponded	85	Depressions	Yes	1, 3
	Scarboro	5	Depressions, Drainageways	Yes	2, 3
	Swansea, ponded	5	Depressions	Yes	1, 3
	Whitman, ponded	5	Depressions, Ground moraines	Yes	2, 3
<b>54A:</b>					
Freetown and Swansea mucks, coastal lowland, 0 to 1 percent slopes	Freetown, coastal lowland	45	Swamps	Yes	1, 3
	Swansea, coastal lowland	45	Swamps	Yes	1, 3
	Rainberry, coastal lowland	10	Depressions, Kettles	Yes	2, 4
<b>55A:</b>					
Freetown coarse sand, 0 to 3 percent slopes, sanded surface	Freetown, sanded surface	85	Depressions	Yes	1, 4
	Swansea, sanded surface, inactive	5	Depressions	Yes	1, 3
	Rainberry, sanded surface	4	Depressions, Kettles	Yes	2, 4
	Tihonet	3	---	Yes	2, 4

# Hydric Soils

Barnstable County, Massachusetts

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
66A:					
Ipswich - Pawcatuck - Matunuck complex, 0 to 2 percent slopes, very frequently flooded	Ipswich	50	Tidal marshes	Yes	1
	Pawcatuck	25	Tidal marshes	Yes	1
	Matunuck	15	Tidal marshes	Yes	2
220A:					
Boxford silt loam, 0 to 3 percent slopes	Scitico	10	Depressions	Yes	2
220B:					
Boxford silt loam, 3 to 8 percent slopes	Scitico	5	Depressions	Yes	2
225B:					
Belgrade silt loam, 3 to 8 percent slopes	Scitico	5	Depressions	Yes	2
	Walpole Variant, LOAMY SUBSTRATUM	5	Terraces	Yes	2
252D:					
Carver coarse sand, 15 to 35 percent slopes	Freetown	3	Bogs	Yes	1
	Swansea	2	Bogs	Yes	1
256A:					
Deerfield loamy fine sand, 0 to 5 percent slopes	Pipestone	4	Terraces	Yes	2
258A:					
Amostown sandy loam, 0 to 5 percent slopes	Walpole Variant, LOAMY SUBSTRATUM	5	Terraces	Yes	2
260A:					
Sudbury fine sandy loam, 0 to 3 percent slopes	Pipestone	4	Terraces	Yes	2
610:					
Beaches	Ipswich	2	Marshes	Yes	1, 3
	Matunuck	1	Marshes	Yes	2
	Pawcatuck	1	Marshes	Yes	1, 3
611:					
Dune land	Ipswich	3	Marshes	Yes	1, 3

# Hydric Soils

Barnstable County, Massachusetts

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>612C:</b>					
Hooksan sand, rolling	Berryland	2	Terraces	Yes	2, 3
	Ipswich	2	Marshes	Yes	1, 3
	Matunuck	2	Marshes	Yes	2
	Pawcatuck	2	Marshes	Yes	1, 3
	Pipestone	2	Terraces	Yes	2
<b>612D:</b>					
Hooksan sand, hilly	Berryland	2	Terraces	Yes	2, 3
	Ipswich	2	Marshes	Yes	1, 3
	Matunuck	2	Marshes	Yes	2
	Pawcatuck	2	Marshes	Yes	1, 3
	Pipestone	2	Terraces	Yes	2
<b>613C:</b>					
Hooksan-Dune land complex, hilly	Berryland	3	Terraces	Yes	2, 3
	Pipestone	2	Terraces	Yes	2

## Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

### References:

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 5.0, 2002. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.